



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,507	10/24/2005	Anja Blondeel	016782-0338	9968
22428 7590 02/19/2009 FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007				
EXAMINER				
BAND, MICHAEL A				
ART UNIT		PAPER NUMBER		
1795				
MAIL DATE		DELIVERY MODE		
02/19/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/550,507

Applicant(s)

BLONDEEL ET AL.

Examiner

MICHAEL BAND

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 3, 6-9, 14, 16 and 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 5, 10-13 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 9/23/2005, 10/24/2005
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Species A1, B3, and A4 corresponding to claims 1-2, 4-5, 10-13, and 15 in the reply filed on 7/18/2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 3, 6-9, 14, and 16-17 are hereby withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 4-5, 10-13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Szczrybowski (US Patent No. 5,558,750) in view of Wang et al (US Patent No. 6,358,851).

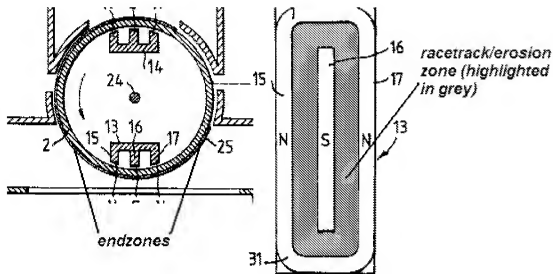
With respect to claims 1-2 and 4-5, Szczrybowski discloses a sputtering chamber [3] comprising a cylindrical, rotating target (i.e. electrode/cathode) [25] connected to a power source [23], a substrate [22], and a vacuum pump [12] for said sputtering

chamber [3] (abstract; fig. 1). However Szczymbowski is limited in that a device being in relative motion to the electrode is not suggested.

Wang et al teaches a method for the removal of metal residue or nodules from surfaces of a sputter target, where a polishing bit (i.e. device) is applied in a rotating manner to said surface of said sputter target to remove said nodules (abstract). Wang et al also teaches the surface of the polishing bit is coated with a material that provides an abrasive action (col. 5, lines 60-67; col. 6, lines 1-4), thus the polishing bit must have a hardness greater than or equal to the hardness of the sputter target in order to remove the nodules. Wang et al cites the advantage of using the polishing bit to remove nodules as improving target yield and reliability (col. 2, lines 26-51).

It would have been obvious to one of ordinary skill in the art to use the polishing bit taught in Wang et al to clean the sputter target of Szczymbowski to gain the advantages of superior target yield and reliability.

With respect to claims 10-12, modified Szczymbowski further discloses in fig. 1 a permanent magnet array [13] behind the target [25], where fig. 2 depicts said permanent magnet array as a racetrack which is also the erosion zone. Fig. 1 also depicts an endzone on both sides of the permanent magnet array [13] that is not sputtered since no magnetic field is present to trap a plasma against the target [25] surface. The cropped figures below of figs. 1-2 serve to further clarify the endzone, racetrack, and erosion zones.



With respect to claim 13, modified Szczyrkowski further discloses the target [25] material being an ITO material (col. 2, lines 56-64).

With respect to claim 15, Wang et al further teaches applying the polishing bit in a rotating manner to the target surface (abstract) when the polishing bit surface [36] is brought in contact with said target surface (col. 5, lines 64-67; col. 6, lines 1-4), thus said polishing bit is brought into intermittent contact with said target surface.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Band whose telephone number is (571) 272-9815. The examiner can normally be reached on Mon-Fri, 8am-4pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on (571) 272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1795

5. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. B./

Examiner, Art Unit 1795

/Alexa D. Neckel/

Supervisory Patent Examiner, Art Unit 1795